UNITED STATES DISTRICT COURT

NORTHERN DISTRICT OF CALIFORNIA

SAN JOSE DIVISION

EMBLAZE LTD., Plaintiff, v. APPLE INC., Defendant.	Case No. 5:11-cv-01079-PSG **ORDER RE: APPLE'S MOTIONS FOR SUMMARY JUDGMENT AND EMBLAZE'S MOTION FOR LEAVE TO AMEND ITS INFRINGEMENT CONTENTIONS** **(Re: Docket Nos. 343, 346, 348, 350 and 401)**

The invention claimed in this patent case bears a certain resemblance to the Veg-O-Matic once hawked on late-night TV: "It slices, it dices and so much more!" But rather than carrots or celery, this contraption chops up streams of data for upload and download. The point is to permit live casting of audio, video and the like without any dedicated server.

Before the court are Plaintiff Emblaze Ltd.'s motion for leave to amend its infringement contentions to add recently-released Apple products[1] and Defendant Apple Inc.'s separate motions for summary judgment of: (1) non-infringement across all[2] and (2) specific[3] content streams,

[1] *See* Docket No. 401.

[2] *See* Docket No. 346.

[3] *See* Docket No. 348.

(3) invalidity[4] and (4) no willfulness.[5] To address these motions, the parties appeared at a specially-set hearing. Although Apple's dispositive motions remain opposed, at the hearing Apple agreed not to oppose Emblaze's motion for leave to amend its infringement contentions.[6] On that basis, Emblaze's motion is GRANTED. After considering the arguments, the court GRANTS Apple's motions, but only IN-PART, as follows:

DOCKET NUMBER	MOTION	RESULT
343	Summary Judgment of No Willful Infringement	GRANTED
346	Summary Judgment of Non-Infringement as to All Accused Streams	GRANTED-IN-PART
348	Summary Judgment of Non-Infringement of Specific Content Providers	DENIED
350	Summary Judgment of Invalidity	DENIED

I. BACKGROUND

A. The Parties and Disputed Technology

Emblaze is an Israeli corporation dedicated to the "development and marketing of innovative high-tech technologies and products."[7] Apple is a California-based corporation that, among other things, markets phones, tablets and computers that incorporate "HTTP Live Streaming technology" capable of "real-time" broadcasting.[8] Emblaze owns the sole patent at issue in this case: U.S. Patent No. 6,389,473 ("the '473 patent").[9]

The '473 patent describes methods that allow "transmission of live audio and video to multiple devices" without requiring "devoted streaming servers" and permitting adjustment to

[4] *See* Docket No. 350.

[5] *See* Docket No. 343.

[6] *See* Docket No. 417.

[7] Docket No. 143 at ¶ 1.

[8] *Id.* at ¶ 11.

[9] *See id.* at ¶ 6; Docket No. 143-1, Ex. A.

"different bandwidths" where necessary.[10] As the patent abstract of the '473 patent puts it, the invention disclosed is:

> A method for real-time broadcasting from a transmitting computer to one or more client computers over a network, including providing at the transmitting computer a data stream having a given data rate, and dividing the stream into a sequence of slices, each slice having a predetermined data size associated therewith. The slices are encoded in a corresponding sequence of files, each file having a respective index, and the sequence is uploaded to a server at an upload rate generally equal to the data rate of the stream, such that the one or more client computers can download the sequence over the network from the server at a download rate generally equal to the data rate.

Independent Claim 1 of the '473 patent is representative:

> A method for real-time broadcasting from a transmitting computer to one or more client computers over a network, comprising:
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> providing at the transmitting computer a data stream having a given data rate;
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> dividing the stream into a sequence of slices, each slice having a predetermined data size associated therewith;
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> encoding the slices in a corresponding sequence of files, each file having a respective index; and
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> uploading the sequence to a server at an upload rate generally equal to the data rate of the stream, such that the one or more client computers can download the sequence over the network from the server at a download rate generally equal to the data rate.[11]

Emblaze claims that through its HTTP Live Streaming, introduced into Apple's products around 2009,[12] Apple infringes each of the asserted '473 patent claims.

B. Procedural History

Emblaze kicked off this case by filing a complaint for patent infringement in the Southern District of New York.[13] Several months later, the case was transferred to this district.[14] After the parties initially declined to consent to magistrate judge jurisdiction, the case was assigned to

[10] *See* Docket No. 143 at ¶ 9.

[11] *See* Docket No. 143-1, Ex. A at 14:18-32.

[12] *Id.* at ¶ 12.

[13] *See* Docket No. 1.

[14] *See* Docket No. 24.

United States District Judge Saundra Brown Armstrong.[15] Emblaze thereafter sought leave to amend its complaint to:

(1) amend the list of claims of the '473 Patent that are asserted by Emblaze so as to conform the allegations to what Emblaze has asserted in its Infringement Contentions;

(2) amend the products that Emblaze is accusing of infringement so as to conform the allegations of the Complaint to what Emblaze has learned in its ongoing investigation and from discovery thus far;

(3) remove certain allegations concerning Apple's presence in the Southern District of New York (no longer relevant now that the action has been transferred to the Northern District of California);

(4) update the firm affiliation of counsel for Emblaze and the change of venue from the Southern District of New York to the Northern District of California; and

(5) make minor editing changes to the text.[16]

After Apple filed a statement of non-opposition, Judge Armstrong granted Emblaze's motion for leave to amend the complaint. Apple then moved to dismiss the amended complaint pursuant to Fed. R. Civ. P. 12(b)(6). Judge Armstrong dismissed Emblaze's indirect infringement claims with leave to amend, but denied Apple's related request to dismiss Emblaze's direct infringement or willfulness claims.[17] Emblaze's responded with a second amended complaint claiming direct, induced, contributory and willful infringement.[18]

Pursuant to the parties' stipulation, the case was reassigned to the undersigned.[19] Following this latest reassignment and a tutorial and hearing, the court construed disputed claim terms as follows:[20]

[15] *See* Docket No. 31.

[16] Docket No. 75 at 2-3 (verb tenses modified).

[17] *See* Docket No. 137.

[18] *See* Docket No. 143.

[19] *See* Docket No. 150.

[20] *See* Docket No. 169 at 1-3. As the court indicated at the hearing and in its order, a complete opinion setting forth the court's full reasoning and analysis will issue before entry of judgment.

CLAIM TERM	CONSTRUCTION
"real-time broadcasting"	simultaneous transmission of data to one or more clients matching the human perception of time or proceeding at the same rate as a physical or external process
"providing at the transmitting computer a data stream having a given data rate"	the transmitting computer provides a data stream having a given amount of data per unit of time
"data stream having a given data rate"	a data stream having a given amount of data per unit of time
"slice"	a discrete segment of the data stream
"each slice having a predetermined data size associated therewith"	each slice having a data size, which may be a time duration, assigned in advance of the stream being divided[21]
"encoding the slices in a corresponding sequence of files"	forming each slice as a file, wherein a file includes compressed data from the slice and a file descriptor, and wherein the sequence of files corresponds to the sequence of slices
"sequence of files, each file having a respective index"	sequence of files, wherein each file has an indicator that represents a respective slice's location in the sequence
"uploading the sequence to a server at an upload rate generally equal to the data rate of the stream"	transmitting the files from the transmitting computer to the server at an upload rate generally equal to the data rate of the stream
"such that one or more client computers can download the sequence over the network from the server at a download rate generally equal to the data rate"	such that one or more client computers are able to select individual files corresponding to the slices for download over the network at a download rate generally equal to the data rate
"decode the sequence"	decompressing any compressed data in the sequence
"play back the data stream responsive to the indices of the files"	playing back the data stream based on the indices of the files to be played back
"at a replay rate generally equal to the data rate"	the rate at which the client plays back the data stream is generally equal to the data rate of the stream
"uploading and updating an index file containing the index of the file in the sequence that was most recently uploaded"	uploading to a server an index file, and updating the index file with the index of the most recently uploaded file
"encoding slices at a different plurality of different quality levels"	forming slices at more than one quality level
"determining a data bandwidth of the network between the server and the client computer"	the client determines a data rate at which a client can download a file from the server
"wherein dividing the stream into the sequence of slices comprises dividing the stream into a sequence of time slices, each having a predetermined duration associated therewith"	the stream is divided into a sequence of slices, where the predetermined data size of the slices is established by setting the time duration of the slices

A few months later, Apple moved the court to reconsider or clarify its prior construction that the term "each slice having a predetermined data size associated therewith" means "each slice

[21] As explained below, this term was later re-construed by the court following Apple's request for reconsideration.

having a data size, which may be time duration, assigned in advance of the stream being divided."[22] The court agreed that reconsideration was warranted and construed the term as meaning "each slice having a data size, which may be established by setting a time duration of the slice, assigned in advance of the stream being divided."[23]

Apple next moved for leave to amend its invalidity contentions,[24] which the court granted.[25] The court later held that it would consider Emblaze's revised patent disclosures to be its operative patent disclosures pursuant to a stipulation between the parties.[26]

As the case turned towards dispositive motion practice, the court denied Apple's motion to stay in light of the Supreme Court's decision to grant certiorari in *Akami v. Limelight Networks*.[27] The court also held that although portions of the report of Emblaze expert Vijay Madisetti report would not be struck, Emblaze was precluded from introducing later-model accused products in its report that were not disclosed in Emblaze's original or revised infringement contentions.[28]

With that, the dispositive motions now before the court finally appeared.

II. LEGAL STANDARDS

A. Summary Judgment

Pursuant to Fed. R. Civ. P. 56(a), the "court shall grant summary judgment if the movant shows that there is no genuine dispute as to any material fact and the movant is entitled to

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[22] *See* Docket No. 207.

[23] Docket No. 214 at 1.

[24] Docket No. 216.

[25] *See* Docket No. 248.

[26] *See* Docket No. 300.

[27] *See* Docket No. 361; *Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301 (Fed. Cir. 2012) *cert. granted*, 134 S. Ct. 895 (2014).

[28] *See* Docket No. 394.

judgment as a matter of law."[29] Material facts are those that may affect the outcome of the case.[30] A dispute as to a material fact is genuine if there is sufficient evidence for a reasonable jury to return a verdict for the nonmoving party.[31] When the parties file cross-motions for summary judgment, the district court must consider all of the evidence submitted in support of both motions to evaluate whether a genuine issue of material fact exists precluding summary judgment for either party.[32] The "sufficiency of an expert's opinion at summary judgment" in a patent case is evaluated "according to the standards of regional circuit law."[33] In the Ninth Circuit, expert "opinion evidence is itself sufficient to create a genuine issue of disputed fact sufficient to defeat" summary judgment,[34] but when "expert opinion is not supported by sufficient facts to validate it in the eyes of the law, or when indisputable record facts contradict or otherwise render the opinion unreasonable, it cannot support a jury's verdict."[35]

B. Anticipation

Section 102(a) provides that an issued patent is invalid, absent an exception, if "the claimed invention was patented, described in a printed publication, or in public use, on sale, or otherwise

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[29] Fed. R. Civ. P. 56(a).

[30] *See Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 248 (1986) ("Only disputes over facts that might affect the outcome of the suit under the governing law will properly preclude the entry of summary judgment. Factual disputes that are irrelevant or unnecessary will not be counted.").

[31] *See id.*

[32] *See Fair Hous. Council of Riverside Cnty., Inc. v. Riverside Two*, 249 F.3d 1132, 1136 (9th Cir. 2001) (the "court must review the evidence submitted in support" of each cross-motion).

[33] *Intellectual Sci. & Tech., Inc. v. Sony Electronics, Inc.*, 589 F.3d 1179, 1183-84 (Fed. Cir. 2009) (citing *Arthur A. Collins, Inc. v. N. Telecom Ltd.*, 216 F.3d 1042, 1048 (Fed. Cir. 2000)).

[34] *Thomas v. Newton Int'l Enterprises*, 42 F.3d 1266, 1270 (9th Cir. 1994).

[35] *Rebel Oil Co., Inc. v. Atl. Richfield Co.*, 51 F.3d 1421, 1436 (9th Cir. 1995) (quoting *Brooke Group Ltd. v. Brown & Williamson Tobacco Corp.*, 509 U.S. 209, 242 (1993)) (citing *SMS Sys. Maint. Servs., Inc. v. Digital Equip. Corp.*, 188 F.3d 11, 25 (1st Cir. 1999) ("Expert testimony that offers only a bare conclusion is insufficient to prove the expert's point.")).

available to the public before the effective filing date of the claimed invention."[36] Once issued, however, patents are entitled to a presumption of validity. Apple's attempt to invalidate the '473 patent therefore "must overcome the presumption of validity in 35 U.S.C. § 282 by clear and convincing evidence."[37]

"Section 102 embodies the concept of novelty—if a device or process has been previously invented (and disclosed to the public), then it is not new, and therefore the claimed invention is 'anticipated' by the prior invention."[38] "Anticipation requires a showing that each element of the claim at issue, properly construed, is found in a single prior art reference."[39] Apple must show "that the four corners of a single, prior art document describe every element" of the disputed claims within the '473 patent.[40] To invalidate the '473 patent, any prior art Apple points to "must be 'enabling'—i.e., it must be sufficient to permit a person having ordinary skill in the art to practice the invention."[41] "Anticipation is a question of fact, and the determination of whether a prior art reference is enabling 'is a question of law based upon underlying factual findings.'"[42] "However, without genuine factual disputes underlying the anticipation inquiry, the issue is ripe for judgment as a matter of law."[43] To prevail on its anticipation argument Apple must prove by "clear and

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[36] 35 U.S.C. 102(a)(1).

[37] *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1149 (Fed. Cir. 2005) (quoting *State Contracting & Eng'g Corp. v. Condotte Am., Inc.*, 346 F.3d 1057, 1067 (Fed. Cir. 2003)).

[38] *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008).

[39] *Zenith Electronics Corp. v. PDI Commc'n Sys., Inc.*, 522 F.3d 1348, 1363 (Fed. Cir. 2008).

[40] *Xerox Corp. v. 3Com Corp.*, 458 F.3d 1310, 1322 (Fed. Cir. 2006) (quoting *Advanced Display Sys., Inc. v. Kent State Univ.*, 212 F.3d 1272, 1282 (Fed. Cir. 2000)).

[41] *Medtronic Vascular Inc. v. Abbott Cardiovascular Sys., Inc.*, 614 F. Supp. 2d 1006, 1014 (N.D. Cal. 2009) (citing *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1342 (Fed. Cir. 2005)).

[42] *Id.* (citing *SmithKline*, 403 F.3d at 1342; *Crown Operations Int'l, Ltd. v. Solutia Inc.*, 289 F.3d 1367, 1376 (Fed. Cir. 2002)).

convincing" evidence that "each and every limitation is found either expressly or inherently in a single prior art reference."[44]

C. Obviousness

A patent is invalid as obvious under Section 103 "if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains."[45] "Whether a patent claim is obvious is a question of law based on four underlying facts: (1) the scope and content of the prior art; (2) the level of ordinary skill in the pertinent art; (3) the differences between the prior art and the claims at issue; and (4) such secondary considerations as commercial success, long felt but unsolved need, and the failure of others."[46] "Generally, a party seeking to invalidate a patent as obvious must demonstrate by clear and convincing evidence that a skilled artisan would have had reason to combine the teaching of the prior art references to achieve the claimed invention, and that the skilled artisan would have had a reasonable expectation of success from doing so."[47]

"The Supreme Court has warned, however, that, while an analysis of any teaching, suggestion, or motivation to combine known elements is useful to an obviousness analysis, the overall obviousness inquiry must be expansive and flexible."[48] The obviousness inquiry must be

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[43] *SmithKline*, 403 F.3d at 1343.

[44] *Celeritas Technologies, Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1361 (Fed. Cir. 1998).

[45] 35 U.S.C. § 103(a).

[46] *Endo Pharm. Inc. v. Mylan Pharm. Inc.*, Case No. 11-cv-00717-RMB-KW, 2014 WL 334178, at *13 (D. Del. Jan. 28, 2014) (citing *Sciele Pharma Inc. v. Lupin Ltd.*, 684 F.3d 1253, 1259 (Fed. Cir. 2012); *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1, 17-18 (1966)).

[47] *In re Cyclobenzaprine Hydrochloride Extended-Release Capsule Patent Litig.*, 676 F.3d 1063, 1068-69 (Fed. Cir. 2012) (citing *Procter & Gamble Co. v. Teva Pharms. USA, Inc.*, 566 F.3d 989, 994 (Fed. Cir. 2009) (quotation omitted)).

[48] *Id.* (citing *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 415, 419 (2007)).

account for the fact that a person having ordinary skill in the art is also "a person of ordinary creativity, not an automaton."[49] There need not be "precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ."[50] "Almost any invention, no matter how nonobvious at the time, will appear obvious when looking backward from the solution. It is for that reason that '[c]are must be taken to avoid hindsight reconstruction by using the patent in suit as a guide through the maze of prior art references, combining the right references in the right way so as to achieve the result of the claims in suit.'"[51]

D. Willfulness

"Establishing that a defendant has willfully infringed a valid patent is a two-step inquiry."[52] First, "a patentee must show by clear and convincing evidence that the infringer acted despite an objectively high likelihood that its actions constituted infringement of a valid patent."[53] After the "threshold objective standard is satisfied, the patentee must also demonstrate that this objectively-defined risk" was "either known or so obvious that it should have been known to the accused infringer."[54] The threshold objective prong "is a question of law based on underlying questions" of law and fact.[55]

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[49] *KSR*, 550 U.S. at 415, 421.

[50] *Id.* at 418.

[51] *Janssen Pharmaceutica N.V. v. Mylan Pharm., Inc.*, 456 F. Supp. 2d 644, 662 (D.N.J. 2006) (quoting *Grain Processing Corp. v. Am. Maize-Prods. Co.*, 840 F.2d 902, 907 (Fed. Cir. 1988) (citation and quotations omitted, alteration for clarity).

[52] *Univ. of Pittsburgh of Commonwealth Sys. of Higher Educ. v. Varian Med. Sys., Inc.*, Case No. 2012-1575, 2014 WL 1387144, at *9 (Fed. Cir. Apr. 10, 2014).

[53] *In re Seagate Tech., LLC*, 497 F.3d 1360, 1371 (Fed. Cir. 2007).

[54] *Id.*

[55] *Bard Peripheral Vascular, Inc. v. W.L. Gore & Assocs., Inc.*, 682 F.3d 1003, 1005 (Fed. Cir. 2012).

III. DISCUSSION

A. Summary Judgment of Non-Infringement as to All Accused Streams is Warranted, But Only In Part

Although Apple marshals five non-infringement arguments as to all accused streams, at oral argument it focused on two in particular: (1) that the accused streams do not have an "upload rate generally equal to the data rate" and (2) that the accused streams do not have slices of "predetermined data size." Apple's additional arguments address (3) streams not analyzed by Emblaze's expert Vijay Madisetti, (4) the absence of a single infringer of the apparatus claims at issue and (5) whether Apple is a direct infringer of the '473 patent. The court will consider each argument in turn.

1. A Reasonable Jury Could Find That the Accused Streams Upload the Claimed Sequence at an Upload Rate Generally Equal to the Data Rate of the Stream

Apple argues that because the "undisputed upload rate evidence shows that the Accused Streams are not uploaded at an upload rate generally equal to the data rate of the stream," summary judgment is warranted.[56] To get there, Apple urges a further construction of the "upload rate" term as "the rate at which the files are uploaded from the transmitting computer to the server, and it must be generally equal to the data rate of the stream."[57] As explained in greater detail below, while Apple is right that further construction is appropriate, Apple's construction inappropriately excludes the wait time between files during a sequence upload from the calculation.

Pursuant to *O2 Micro*, the court is obligated to construe "upload rate" specifically – despite the court's prior constructions offered in this case.[58] As noted earlier, the court previously issued

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[56] Docket No. 346 at 7.

[57] *Id.*

[58] *See O2 Micro Int'l Ltd. v. Beyond Innovation Tech. Co., Ltd.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008) (holding that although "district courts are not (and should not be) required to construe every limitation present in a patent's asserted" claims, when "the parties present a fundamental dispute regarding the scope of a claim term, it is the court's duty to resolve" it). A fundamental dispute addresses the meaning and scope of a claim term, not the application of the

the following construction of a broader limitation that includes "upload rate":[59]

CLAIM TERM	CONSTRUCTION
"uploading the sequence to a server at an upload rate generally equal to the data rate of the stream"	transmitting the files from the transmitting computer to the server at an upload rate generally equal to the data rate of the stream

Because determining the meaning and scope of patent claims is a responsibility of the court,[60] the court accepts its *O2 Micro* duty and will construe the specific "upload rate" term with the guidance of *Phillips*[61] and its progeny in mind, just as it has done with its earlier constructions.[62]

According to Apple, "upload rate" must constitute the ratio of data uploaded to upload time, exclusive of the wait time between file uploads. But this construction overlooks the claims' specific reference to the upload rate of the sequence, not the upload rate of a single file within the sequence.[63] The court has already explained that "uploading the sequence to a server at an upload rate generally equal to the data rate of the stream" means "transmitting the files from the transmitting computer to the server at an upload rate generally equal to the data rate of the

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claim to an accused instrumentality. *See id.* (citing *U.S. Surgical Corp. v. Ethicon, Inc.*, 103 F.3d 1554, 1568 (Fed. Cir. 1997)

> The *Markman* decisions do not hold that the trial judge must repeat or restate every claim term in order to comply with the ruling that claim construction is for the court. Claim construction is a matter of resolution of disputed meanings and technical scope, to clarify and when necessary to explain what the patentee covered by the claims, for use in the determination of infringement. It is not an obligatory exercise in redundancy.

[59] Docket No. 169.

[60] *See O2 Micro*, 521 F.3d at 1360 ("When the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute.") (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995) (holding that claim construction is a matter of law)).

[61] *See Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005).

[62] *See* Docket Nos. 169 and 214.

[63] *See* Docket No. 143-1, Ex. A at 14:28-29 ("uploading the sequence to a server at an upload rate generally equal to the data rate of the stream").

stream."[64] The upload rate thus must be based on the transmission of the files – plural – to the server and not transmission of a single file. Even though the data in a single file may take only a fraction of the slice allotted to upload, the encoder must wait the balance of the wait time before uploading a second file.[65] Because the sequence as a whole is not uploaded until the upload of the last of its files, the wait time in between the files must be included.[66]

Apple's additional argument that "use of the segment duration for the time to upload renders the claim's 'generally equal' requirement meaningless" – because the upload rate and data rate must necessarily be the same if wait time is included – is incomplete.[67] "A claim construction that gives meaning to all the terms of the claim is preferred over one that does not do so."[68] But here, regardless of whether wait time is included, if the upload rate is too slow, a "live" stream will

[64] Docket No. 169 at 2.

[65] *See* Docket No. 388-12, Madisetti Decl. at ¶ 5 ("The data in a 10-second single file may take only .1 seconds ('Actual Time') to upload, but the encoder must wait the remaining 9.9 seconds ('Wait Time') before it can begin uploading the second file, and so on. Therefore, to calculate the upload rate for the sequence of files, one must include the Actual Time plus Wait Time since the second file (and third and fourth, etc.) will not be available for uploading until the Wait Time of the previous file has expired. Since the claims explicitly require a determination of the upload rate of the "sequence" (and not a single file within the sequence), Apple's calculation (and argument) is flawed.").

[66] This understanding is in agreement with the objective of the patent: keeping the live upload, data and download rates of the stream all generally equal to maintain uninterrupted live-streaming. If the file upload times are delayed beyond the allotted slice, then the upload rate would need to be adjusted. This required modification gives meaning to dependent claims 15 through 17 – which claim comparison and corrective action related to the upload rate, the compression ratio and the size of the slices. On this point, reference to the written description is instructive:

> In some preferred embodiments of the present invention, the transmitting computer and the clients monitor the uploading and downloading of data to and from the server, respectively, in order to determine the amount of time required to convey each slice and to verify that the slices are conveyed at a sufficient rate. When the data stream comprises multimedia data, the data rate should be generally equal to or faster than the rate at which the data are generated at the transmitting computer.

See Docket No. 143-1, Ex. 1 at 2:51-59.

[67] Docket No. 346 at 9.

[68] *Merck & Co. v. Teva Pharms. USA, Inc.*, 395 F.3d 1364, 1372 (Fed. Cir. 2005); *see also Pause Tech., LLC v. TiVo, Inc.*, 419 F.3d 1326, 1334 (Fed. Cir. 2005) ("In construing claims, however, we must give each claim term the respect that it is due.").

lag and the client's display will eventually stall while subsequent segments are uploaded and transmitted. The upload and data rates therefore must be "generally equal" to maintain live streaming.

Apple also urges that the "upload time" referred to in the patent as pertaining to a single file is interchangeable with "upload rate." It cannot be overlooked, however, that the patentee relied on two different words to describe those two concepts.[69]

In sum, the term "upload rate" in the context of the '473 patent should be read to include wait time between the transmission of files within a sequence. A reasonable jury could find that the accused streams include such an upload rate.

2. A Reasonable Jury Could Find Each Slice Has a Data Size Established By Setting a Time Duration Assigned in Advance of the Stream Being Divided

Focusing on an ambiguity in the specific term "predetermined data size" Apple argues that the record is undisputed that the accused products do not practice the broader limitation "each slice having a predetermined data size associated therewith." Once again, while the court agrees that clarification of the disputed term is appropriate, that clarification could be applied by a reasonable jury to find infringement of the accused content streams.

Consider first the history of the construction of the "predetermined data size" term thus far. The asserted claims of the '473 patent all require each slice to have "a predetermined data size

[69] *See* Docket No. 143-1, Ex. A at 9:34-36; 12:13-15; *cf. Innova/Pure Water, Inc. v. Safari Water Filtration Sys., Inc.*, 381 F.3d 1111, 1119-20 (Fed. Cir. 2004) (When "an applicant uses different terms in a claim it is permissible to infer that he intended his choice of different terms to reflect a differentiation in the meaning of those terms.") (citing *Bancorp Servs., L.L.C. v. Hartford Life Ins. Co.*, 359 F.3d 1367, 1373 (Fed. Cir. 2004) (The "use of both terms in close proximity in the same claim gives rise to an inference that a different meaning should be assigned to each."); *Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp.*, 93 F.3d 1572, 1579 (Fed. Cir. 1996) ("If the terms 'pusher assembly' and 'pusher bar' described a single element, one would expect the claim to consistently refer to this element as either a 'pusher bar' or a 'pusher assembly,' but not both, especially not within the same clause. Therefore, in our view, the plain meaning of the claim will not bear a reading that 'pusher assembly' and 'pusher bar' are synonyms.")).

associated therewith."[70] During the initial *Markman* hearing in this case, Apple argued this term should be construed as "each slice has an amount of data, measured in bits, that is assigned in advance of the stream being divided."[71] Emblaze countered that the predetermined data size could be an "assigned time duration."[72] The court declined to adopt Apple's granular construction – in part, because the patent does not identify any requirement that the predetermined data size be measured in bits – and construed the term as "each slice having a data size, which may be a time duration, assigned in advance of the stream being divided."[73] Apple subsequently sought leave to move the court to reconsider its initial construction[74] and the court granted Apple's request.[75] Apple's motion for reconsideration suggested that the court impermissibly equated "data size" with "time duration" and suggested that neither party advocated the court's construction. In response, the court refined its construction to "each slice having a data size, which may be established by setting a time duration of the slice, assigned in advance of the stream being divided."[76]

Now, at summary judgment, the parties dispute whether setting the time duration generates a slice with a data size that is assigned in advance of the slice being divided, in satisfaction of the claim limitation. Apple urges that the data size of a slice may not be assigned in advance by a time duration if the accused streams employ variable data rates. But the patent simply does not teach always assigning the exact number of bits prior to slice division. In fact, it teaches the opposite, by describing one embodiment in which setting the time duration predetermines the data size of the

[70] Docket No. 143-1, Ex. 1 at 14:24-25.

[71] Docket No. 118 at 12.

[72] Docket No. 111 at 11.

[73] Docket No. 169 at 2.

[74] Docket No. 201.

[75] *See* Docket No. 206.

[76] *See* Docket No. 214.

slice.[77] Under ordinary circumstances, claims should not be construed to ignore an embodiment.[78] Apple's argument is colorable, but colorable arguments alone cannot overcome the intrinsic record.

Dependent claim 23 also supports the notion that setting the time duration predetermines the data size of the slice. It reads: "wherein dividing the stream into the sequence of slices comprises dividing the stream into a sequence of time slices, each having a predetermined duration associated therewith." Claim 23 thus makes it clear that the predetermined data size of the slices in claim 1 may comprise a "predetermined duration." The same analysis applies to claim 37, which ultimately depends from claim 25.[79] Critically, nothing in any of this language limits the use of time duration in predetermining data size to only constant bit rate streams.[80]

[77] *See* Docket No. 143-1, Ex. 1 at 5:33-35 ("Further preferably, the data stream includes multimedia data, and the predetermined data size of each of the slices corresponds to a time duration of the slice.").

[78] *See Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1277 (Fed. Cir. 2008) (At least "where claims can reasonably to interpreted to include a specific embodiment, it is incorrect to construe the claims to exclude that embodiment, absent probative evidence on the contrary.").

[79] *See also* Docket No. 143-1, Ex. 1 at 2:4-6 ("The data stream is divided into a sequence of segments or slices of the data, preferably time slices, wherein the data are preferably compressed."); *id.* at 7:23-25 ("Each slice contains a segment of video and/or audio data, corresponding to a respective, successive time interval labeled T_1, T_2 , T_3, etc."); id. at 9:33-35 ("The sizes of the files may be varied by adjusting slice durations T_1, T_2, T_3, etc., and a relatively greater volume of data may be transmitted through links exhibiting relatively greater data rates."); *id.* at 13:44-46 ("It will be understood in this case that the slices of the data stream corresponding to files 42, 44, 46, etc., will not necessarily be time slices as described hereinabove, but may rather have an appropriate, preferably variable, data size associated therewith.").

[80] *See id* at 11:53-64 ("Similarly, at a set duration step 92, slice durations T_1, T_2 , T_3, etc., are optionally adjusted responsive to the link bandwidths. Initially, duration T_1 of slice 1 for file 42 is set to a default value, typically between 1 and 5 sec. For example, to transfer compressed audio data at 2 Kbytes/sec, file 42 may be assigned a file size of 10 Kbytes, with T_1 =5 sec. Assuming that computer 34 communicates over network 28 through a 28.8 Kbaud modem and maintains a typical FTP upload rate of 2 Kbytes/sec (allowing for moderate Internet bottlenecks), data stream 40 will be uploaded to server 36 over link 60 (FIG. 4) substantially at the rate that the audio data are input to computer 34."); *id.* at 12:61-67 ("As noted above, for each file 42, 44, 46, etc., computer 34 measures a slice transmission time T_{SL} corresponding to the time required to transmit the entire file to server 36. If T_{SL} is greater than a maximum permissible time T_{MAX}, it is then determined that the link over which the file was transmitted is not functioning adequately."); *id.* at ("the compression ratio may be adjusted by changing compression coefficients (e.g., MPEG coefficients) so as to match the data stream bandwidth to the available link bandwidth").

A reasonable jury could find the accused streams, with their rates subject to a maximum rate, meet this requirement. For example, the MLB stream has a nominal 1200Kbps (the "given data rate"), combined with an audio stream having a "given data rate" of 64Kbps and a slice duration of 5 seconds, yields roughly 800,000 bytes per slice (or 800 Kbytes). By providing a data stream having a given data rate, whether constant or variable, and then establishing a time duration for each slice in advance of the stream being divided, so long as the rate is subject to a maximum value all of the resulting slices will have data sizes that are approximately equal. In Madisetti's experimental results, all the accused streams do just that – the streams are all within a few percentage points of target rates.[81] This is sufficient to require a jury to decide.[82]

3. Summary Judgment of Non-Infringement is Warranted As To Unanalyzed, Accused Streams

Apple argues that Emblaze has not satisfied its burden to establish infringement of streams from certain content providers that have not been analyzed. Because Emblaze did not compare each accused stream to the claims, Apple says Emblaze carried an obligation show that accused streams use HLS and that HLS necessarily practices the asserted claims.[83] Emblaze concedes it did not analyze certain streams – e.g. CNN, Fox News, NBC and Fox Sports – nor did it opine that HLS necessarily practices the asserted claims. Emblaze also conceded at oral argument that it is not accusing unanalyzed content streams. Based on these concessions the court grants partial summary judgment of non-infringement as to the unanalyzed content provider streams.

4. A Reasonable Jury Could Find Infringement of the Accused Apparatus Claims Based on Madisetti's Report

Apple argues that no reasonable jury could find that it induced infringement of any of the

[81] *See id.*

[82] *See* Docket No. 388-12 at ¶ 8.

[83] *See Fujitsu v. Netgear*, 620 F.3d 1321, 1327-28 (Fed. Cir. 2010).

apparatus claims from the '473 patent.[84] For Apple to be so liable at least one party must have directly infringed the apparatus claims.[85] Typically, this is not a problem,[86] and the record would support a finding that the same is true here. Emblaze's infringement expert report concludes by reference that Apple induces MLB Advanced Media, which offers MLB AT BAT, to infringe the asserted apparatus claims of the '473 patent for "the same reasons discussed above" for the related asserted method claims. While the court will not speculate whether this incorporation by reference strategy will succeed at trial, and the court will not permit Madisetti to stray from opinions disclosed in his report, a reasonable jury could rely on such testimony to find Apple induced MLB Advanced Media to directly infringe the asserted apparatus claims. Summary judgment is not warranted as to the accused apparatus claims.

5. Summary Judgment That Apple is Not a Direct Infringer is Warranted

Because Madisetti only opined that Apple induced but did not directly infringe the '473 patent – and in light of Emblaze's concession to the same at the hearing – summary judgment that Apple did not directly infringe the '473 patent is warranted.

[84] *Compare* independent claim 1 ("A method for real-time broadcasting"), *with* independent claim 25 ("Apparatus for real-time broadcasting").

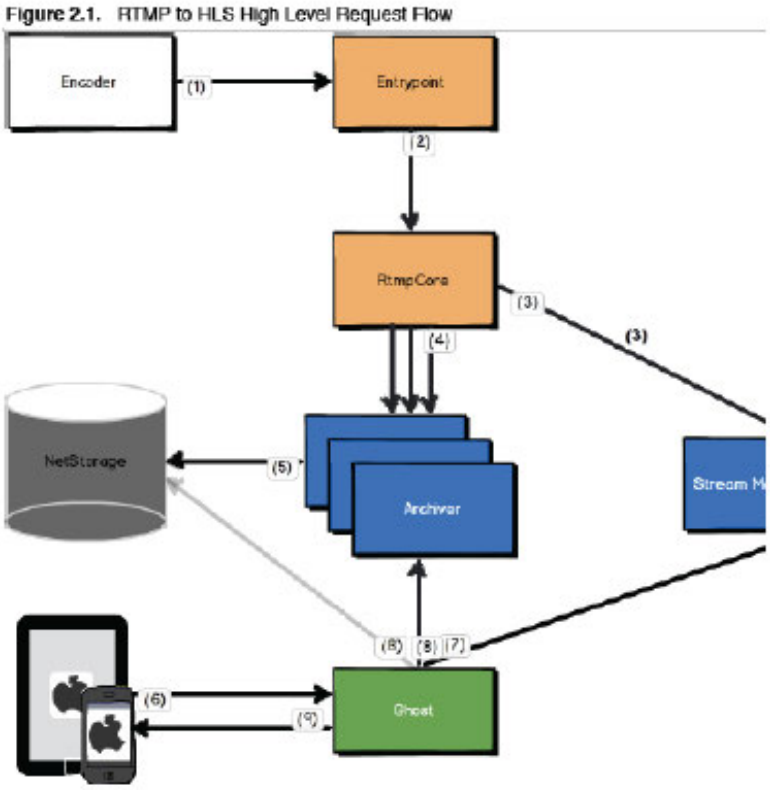
[85] *Toshiba Corp. v. Imation Corp.*, 681 F.3d 1358, 1363 (Fed.Cir. 2012) (internal quotation marks omitted) ("To prove induced infringement, the patentee must show direct infringement, and that the alleged infringer knowingly induced infringement and possessed specific intent to encourage another's infringement.").

[86] *See Akamai Technologies, Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1305-06 (Fed. Cir. 2012) ("The problem of divided infringement in induced infringement cases typically arises only with respect to method patents. When claims are directed to a product or apparatus, direct infringement is always present, because the entity that installs the final part and thereby completes the claimed invention is a direct infringer.").

B. Summary Judgment of Non-Infringement as to Specific Accused Content Providers Is Not Warranted

1. A Genuine Issue Remains as to Whether the PGA and ABC Streams Infringe

The parties agree that two of the accused streams – ABC and the PGA – use something called the Akamai RTMP architecture:[87]



As shown, the Akamai architecture consists five key components: (1) Entrypoint, (2) RtmpCore, (3) Archiver, (4) NetStorage and (5) Ghost (sitting on the "edge server"). After ABC or the PGA generates a live stream, the stream is passed through Entrypoint and onto RtmpCore. RtmpCore converts the stream into an intermediate proprietary Akamai file format that supports not just Apple's HLS, but also HD Flash 1.0 and HDS. The intermediate file format is not sent to the client but instead is subsequently stored in Archiver or NetStorage. When an Apple client serves a

[87] *See* Docket No. 389-6 at ¶ 6 ("Specifically, as with the MLB, step 1 of Claim 1 is performed by the content provider (ABC News or PGA) which provides a stream having a given data rate to the Akamai entry point. The Akamai RTMP Architecture then performs the function of the 'transmitting computer' (steps 2 and 3 of Claim 1) through its RTMPCore.").

stream request, Ghost fetches the intermediate file format from storage as "raw material" to build an HLS stream, which is what the client receives.

Apple argues that no reasonable juror could find that this architecture practices any of the asserted claims. But none of Apple's three supporting arguments are persuasive. First, there is ample evidence in the record that the sequence of files sent to the client are uploaded to the edge server on which Ghost sits.[88] A reasonable jury could discount the fact that when those files are uploaded, the files are in the proprietary Akamai format, and when they are downloaded, they are in the format of Apple's HLS. Nothing in the claim specifically excluded a translation of file format, and claims "comprising" certain steps are generally understood to permit others.[89] Second, while Apple is right that the patent distinguishes its claimed invention from those relying on "high-cost, dedicated computer systems" found in the prior art,[90] this distinction is identified as a preferred embodiment and nothing in the claim language itself is so limited. When "claim language is broader than the preferred embodiment, it is well-settled that claims are not to be

[88] *See* Docket No. 347-6 ("Does the GHost actually reside on the Edge server? A. GHost refers to server software which resides on different parts of the Akamai network, including the -- what we refer as to the Edge server, which is a server that we target to be as close as possible to the end user or end device. Q. Okay. So is it -- is it – it's possible that client devices actually connect directly to the server with the GHost software? A. Yes, that is typical. Q. That's typical? A. Yes. Q. So there's not going to be another server in between the GHost and the client in a typical case? A. The -- the GHost server that's communicating with the end user is the one that's creating the fragments for the purposes of http live streaming. As it authors that fragment, it may need to communicate with other Akamai servers. Q. But the connection of the download of the -- of the fragments to the client device is directly from that server with the GHost software on it, typically? A. Yes, typically.").

[89] *See MagSil Corp. v. Hitachi Global Storage Technologies, Inc.*, 687 F.3d 1377, 1383 (Fed. Cir. 2012)

> Open claim language, such as the word "comprising" as a transition from the preamble to the body of a claim, "signals that the entire claim is presumptively open-ended." *Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1371 (Fed. Cir. 2005). "The transition 'comprising' creates a presumption that the recited elements are only a part of the device, that the claim does not exclude additional, unrecited elements." *Crystal Semiconductor Corp. v. TriTech Microelectronics Int'l, Inc.*, 246 F.3d 1336, 1348 (Fed. Cir. 2001).

[90] Docket No. 143-1 at 1:34-37; 1:51-53.

confined to that embodiment."[91] A reasonably jury could therefore find that Entrypoint and RtmpCore make up the "transmitting computer" even if they are not common or general purpose devices. Finally, even if the "response bodies" Ghost sends to the client could not reasonably be deemed the stored "files" that the patent requires,[92] files are stored in the intermediate format in NetStorage and Archiver.[93] And there is nothing inherently unreasonable about a finding that the response bodies are in fact files that are stored when in temporary memory in Ghost. Summary judgment that the Akamai RTMP architecture does not infringe is not warranted.

[91] *DSW, Inc. v. Shoe Pavilion, Inc.*, 537 F.3d 1342, 1348 (Fed. Cir. 2008); *see also Phillips*, 415 F.3d at 1323 (Fed. Cir. 2005) (Although "the specification often describes very specific embodiments of the invention, we have repeatedly warned against confining the claims to those embodiments."); *Primos, Inc. v. Hunter's Specialties, Inc.*, 451 F.3d 841, 848 (Fed. Cir. 2006) (noting the Circuit is "mindful" to avoid importing "limitations from the preferred embodiments into the claim").

[92] *See* Docket No. 347-6 at 98:7-99:21 ("Q. And, again, the reason the GHost is creating those play lists and TS files is to put them in compliance with the HLS specification [] -- so they can be played back, right? A. It's creating these response bodies so that it can played back on the compatible devices. We're not actually creating files and then returning files as part of the packaging step. Q. So when you say "a response body," what do you mean by that? A. The http protocol consists of a -- of a -- of a request. In the case of http live streaming, that would be what's known as a get request. It would ask the server for a specific object and, upon receipt of this request, we would return an http response. And that response would contain either the play list information or the -- the actual TS or fragment data. Q. Okay. So there -- there's a get request that goes from the client device, such as the iPhone or the iPad, to the GHost, and then the GHost, depending on what the nature of the request is, would either return the play list, whether it's the variant play list or the child play list, or if it's being asked for a specific segment, it'll return that segment to the client device? A. Yes. Q. Okay. And, again, those segments that are available are on the GHost as TS files? A. No. Q. What format are they on the GHost? Or are they on the GHost, I guess? A. The -- the content may or may not be stored in memory or on disk on GHost. And when present, it's in the Akamai intermediate format. It is never stored outside of the temporary in-memory storage; just needed to send the data over the network while in the TS format."); *id.* at 71:3-24 ("Q. Okay. And what -- what transformation of the RTMP stream takes place in the RTMP core, if any? A. The transformation is from RTMP into -- into the Akamai intermediate file format. Q. So is segmenting occurring in here -- [] -- in this RPMT core software? A. The -- the content is prepared in a way that is not used directly for any end-user delivery of content. So what we would refer to as packaging, for example, of HLS does not take place there. Q. Okay. So it's just a proprietary Akamai intermediate file format? A. Yes. Q. And what is the purpose of -- of placing the RTMP stream into this intermediate file format? A. The -- the purpose is to have an optimized container for storage in the archiver and the long-term storage of content in the Akamai net storage platform.").

[93] *See id.* at 73: 2-5 ("Q. Okay. So if I understood that correctly, the net storage is a long-term storage if the content is going to be archived, essentially? A. Yes.").

2. A Genuine Issue Remains As To Whether the ESPN and NFL Preseason Streams Infringe

Apple argues summary judgment of non-infringement is warranted as to the specific accused content streams provided by ESPN and NFL Preseason due to the bare evidentiary record. Because Emblaze did not depose ESPN, Apple says Emblaze has no record evidence as to what "backend" ESPN uses to stream its content. That Madisetti "didn't have time to put the full" analysis together in unavailing.[94] For the NFL Preseason stream, Apple highlights the fact that the NFL 30(b)(6) witness was unknowledgeable about how its content is streamed, presumably because the stream was handled externally by Neulion.com.[95] If Emblaze believed the NFL had not properly complied with its 30(b)(6) obligations, Emblaze should have sought relief at that time. The net of all this according to Apple is that Emblaze's expert now is unable to offer evidence about who owns and operates the transmitting computer responsible for streaming the NFL Preseason content.[96]

Emblaze counters that Madisetti's reliance on Wireshark, which permitted him to capture packets sent over a wireless network, store those packets as PCAP files and attach the results to his report and subsequent data analysis and comparison to the asserted claims – including determining the presence of indexes, file descriptors, target duration of slices and segments and data rates – provided him a sufficient basis to conclude that all of the streams complied with the HLS

[94] Docket No. 347-10, at 428:6-16 ("Q. Well, with respect to the ESPN stream, for example, you don't have any knowledge what the servers are that are utilized to deliver the ESPN stream, do you? [] THE WITNESS: As I said, it is in my data capture, and I can certainly -- I mean, I didn't have time to put the full analysis, but I certainly provided the data.").

[95] *See* Docket No. 347-14 at 128:4-10 ("Q. Do you know if New Line uses HLS? A. I do not know. Q. So you don't know if New Line uses HLS to stream Game Rewind, Pre-Season Live, Game Pass or Audio Pass? [objection] THE WITNESS: I don't know.").

[96] *See id.* at 395:9-18 ("Q. But you didn't identify any particular computers associated with the NFL Preseason Live that you were identifying as the transmitting computer? A. I identified -- based on my analysis, I'm certain that these computers performed these steps. I have not identified who owns these computers and where they are; but, in my opinion, I think these would either be controlled by NFL or its CDN providers.").

protocol.[97] Madisetti's conclusion that both ESPN and NFL employ Apple's HLS streaming is based on "experimental" Wireshark results that "show" Apple follows the HLS protocol and uses "the same formats, the same syntax, and the same codes, the descriptors."[98] Emblaze urges that Madisetti's conclusion that ESPN and the NFL Preseason both use HLS, together with Madisetti's detailed analysis of how HLS works relative to MLB AT BAT, provides him a sufficient basis to opine that the ESPN and NFL Preseasons streams infringe the asserted claims.[99]

The court agrees with Apple that Emblaze may not simply intuit what is going on in the back by what is coming out the front without additional analysis that the content provider practices HLS and HLS necessarily infringes. Emblaze must show that a content stream complies with the HLS protocol and the HLS protocol necessarily infringes the asserted claims.[100] But Madisetti does rely on outputs from Wireshark to suggest the similarity of the ESPN and NFL Preseason streams to MLB AT BAT – which relies on HLS. Madisetti then bootstraps his infringement arguments regarding the ESPN and NFL Preseason streams onto his more fulsome infringement analysis of MLB AT BAT. Although Madisetti's report is hardly a model of clarity, or disclosure, it appears to be just enough to squeak by under Ninth Circuit law.[101] In particular, Apple has not pointed to "indisputable record facts" that contradict or otherwise indicate the unreasonableness of Madisetti's expert opinion. Although the court cannot say whether Emblaze will ultimately succeed at trial relying on Madisetti's analysis, summary judgment is not warranted on these streams.

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[97] *See* Docket No. 391-6 at ¶¶ 86-95.

[98] *See* Docket No. 390-5, Ex. C at 412-413.

[99] *See id.* at ¶¶ 97-200.

[100] *See Fujitsu*, 620 F.3d at 1327-28 (an accused product operating according to a standard is not a basis for infringement absent a comparison of the standard to the asserted claims to show that compliance with the standard necessarily infringes).

[101] *See supra* notes 33-35.

C. Summary Judgment of Invalidity is Not Warranted

1. A Reasonable Jury Could Find The '473 Patent Not Invalid as Anticipated By Cohen

Asserted claims 1 and 25 are the only two independent claims in the '473 patent.[102] Apple argues that a reasonable jury could only find those claims are anticipated by U.S. Patent No. 5,751,968 ("Cohen").[103] The parties' primary disagreement centers on whether the Sound Blaster Audio Card referenced in Cohen provides a data stream with a given data rate as required by the independent claims of the '473 patent.[104] Apple believes two references from Cohen, read together, satisfy this limitation:

> For example, if the multi-media presentation is an audio presentation, the computer forming the unit 12 will include an audio card capable of receiving audio signals, an audio card capable of receiving audio signals such as Sound Blaster, manufactured and sold by Creative Lab Technologies of the USA.[105]
>
> Another example is that the data fed by the feeding unit can be compressed and subsequently decompressed by the UOD. Similarly, the data files including segments of the multi-media presentation or the single file may be compressed in the HITP server and subsequently decompressed in the UOD. These compression and decompression steps may be performed by any suitable compression and decompression algorithm known in the art.[106]

Emblaze disagrees.

A comparison of Cohen and the asserted, independent claims informed by expert declarations draws out key factual questions in dispute that require jury adjudication. In particular, Madisetti and Michael Orchard, Apple's expert, filed conflicting declarations highlighting the

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[102] *See* Docket No. 143-1, Ex. A.

[103] *See* Docket No. 350. In light of the parties' agreement to treat claims 1 and 25 as equivalent for the purposes of this motion, the court, too, will merge its analysis of the related claims.

[104] The court previously construed the claim limitation "providing at the transmitting computer a data stream having a given data rate" to mean "the transmitting computer provides a data stream having a given amount of data per unit of time."

[105] *See* Docket No. 350-6, Ex. 4 at 4:32-36.

[106] *See id.* at 7:45-52.

parties' dispute over (1) the breadth of Cohen's disclosure,[107] (2) what a PHOSITA would understand about the various compression schemes from the mid-1990s and what the Sound Blaster Cards – referenced in both Cohen and the '473 patent – disclose[108] and (3) whether Cohen

[107] *Compare* Docket No. 350-12, Orchard Decl. at ¶ 5

> In Dr. Madisetti's rebuttal report, with respect to Cohen specifically, Dr. Madisetti states that "the lack of disclosure of . . . data sizes in relation to the time duration of the slices renders the combination with Cohen with any alleged prior art reference that discloses multiple rates unsuitable for rendering the asserted claims of the '473 patent obvious." (Ex. 5 at 34). It is my opinion that Cohen discloses dividing a stream by time durations as I have previously stated. (Orchard Report, Ex. 4).

with Docket No. 385-7 Madisetti Decl. at ¶ 9

> Moreover, the passage in Cohen at 7:45-52 demonstrates that Cohen's reference to compression is not a recognition of the need to assign a given data rate to the data stream, much less a disclosure of that step. This is evident from the fact that Cohen teaches that compression can be applied to the already-formed files on the server ("Similarly, the data files . . . may be compressed in the HTTP server and subsequently decompressed in the [user operated device]."). (Ex. 2, Cohen, 7:47-50). However, applying compression to the already-formed files on the server necessarily means that the stream had been sliced, formed as files, and uploaded to the server before compression was applied. That would be antithetical to the invention of the '473 patent, which requires providing a data stream having a given data rate at the transmitting computer, then dividing the stream into a sequence of slices, each slice having a predetermined data size associated therewith, then encoding the slices in a corresponding sequence of files, and only then uploading the sequence to a server. (Ex. 1, '473 patent, 14:18-33). That is, the method of claim 1 insures that the upload rate of the sequence of files to the server and the download rate of the sequence of files to the client device will both be generally equal to the data rate of the stream, whereas if Cohen's teaching is followed and compression is first applied to the already-formed files on the server, the upload and download rates will not be generally equal. Thus, it is clear that Cohen's reference to compression is not a teaching or suggestion to assign to the data stream a given data rate; indeed, this passage in Cohen demonstrates that Cohen did not even recognize the problems that would result from failing to do so.

[108] *Compare* Docket No. 350-12, Orchard Decl. at ¶ 5

> However, [Madisetti] also fails to take into account that certain audio compression schemes such as GSM 6.10 operated at a fixed data rate per time duration. In the case of GSM 6.10, the scheme generates 260 bits for every 20 milliseconds of speech. (See, e.g., GSM 6.10 Specification, Ex. 9 at 6 & 10). As detailed in the GSM 6.10 Specification, GSM 6.10 only provides for a single bit rate but software modifications such as the one disclosed in Ferriere support modified GSM schemes that encode at multiple quality levels. The significance of operating at a fixed rate is that for GSM 6.10 or modified GSM encoding, dividing a stream into slices of the same data size will also result in dividing a stream into slices having the same time duration.

with Docket No. 385-7 Madisetti Decl. at ¶ 8

> Apple's Motion cites to Cohen at 4:33-36 and 7:45-52 as teaching the limitation of "providing at the transmitting computer a data stream having a given data rate." (D.E. 350, Apple's Motion, p.16). My review of those passages shows that they do not teach the

considered the need to maintain the upload, download and data rates all generally equal in satisfaction of the claim limitation requiring "transmitting the files from the transmitting computer to the server at an upload rate generally equal to the data rate of the stream such that one or more client computers are able to select individual files corresponding to the slices for download over the network at a download rate generally equal to the data rate."[109] Because a reasonable jury

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limitation of "providing at the transmitting computer a data stream having a given data rate." The first passage, at 4:33-36, only states that the feeding unit 12 in Cohen may include a Sound Blaster card for capturing an audio signal, but says nothing about assigning a "given data rate" to the audio stream. (Ex. 2, Cohen, 4:33-36). In fact, and as Apple acknowledges, the Sound Blaster card only serves to capture an audio signal and convert it to a digital signal; it does not "provid[e] at the transmitting computer a data stream having a given data rate" as required by claim 1 of the '473 patent. (D.E. 350, Apple's Motion, p. 6). The second passage in Cohen at 7:45-52 states only that the data files "may be compressed in the HTTP server and subsequently decompressed in the UOD," i.e., user operated device. (Ex. 2, Cohen, 7:45-52). Here too there is no mention of assigning a "given data rate" to the data stream. Nor is assigning a "given data rate" to the stream inherent in "compression." In this regard, in the mid-1990s, and even now, various compression schemes were in available and in use. For example, one such scheme was variable bit rate without restraint ("VBR"), and such a compression scheme will not result in a stream having a given data rate. *See* Exhibit 1 attached to my Declaration showing the difference in bit rate over time with VBR encoding without restraint ("VBR" in Exhibit 1), VBR encoding with a maximum value of 1000 Kbps ("VBR max 1000" in Exhibit 1), and constant bit rate encoding at 1000 Kbps ("CBR 1000" in Exhibit 1); the bit rate of the former varies widely over time whereas the bit rate of the latter two are fairly constant. Yet there is no guidance in Cohen as to any particular compression scheme, which in my opinion demonstrates that Cohen did not appreciate the importance to real time live streaming of providing a data stream having a given data rate.

[109] *Compare* Docket No. 350-12, Orchard Decl. at ¶ 4

In Dr. Madisetti's rebuttal report, he offered the opinion that "the given data rate should satisfy the upload and download rates as required by the '473 patent for live streaming, and therefore Cohen is not able to live stream data as required by Claim 1." (Dr. Madisetti Rebuttal Invalidity Report, Ex. 5 to the Weider Decl., at pg. 34). I have already stated my opinion that Cohen discloses a given data rate and that Cohen discloses the required upload and download rates under Emblaze's contention that the upload and download rates are generally equal to the data rate in a live implementation. (Orchard Report at Ex. 3). However, to the extent the claim can be read to contend that some affirmative act of "picking" is required for purposes of the claim to maintain live streaming (which Cohen plainly discloses as I also state in my expert report), a person or ordinary skill in art would readily understand that the data rate of the stream would need to be less than the available bandwidth to maintain live streaming and nothing further is necessary to meet the generally equal requirement based upon Emblaze's definition of upload and download rates.

with Docket No. 385-7 Madisetti Decl. at ¶ 7

Unlike Cohen, the '473 patent recognizes, and claims, the necessity of "providing . . . a data stream having a given data rate," which is required if, as also required by claim 1, the files are to be "upload[ed] to a server at an upload rate generally equal to the data rate of the

could draw different conclusions on these factual questions and find that Cohen does not anticipate the '473 patent, summary judgment of anticipation is not warranted.

2. A Reasonable Jury Could Find Dependent Claims 11, 12 and 40 Not Invalid as Obvious in Light of Cohen and Ferriere

As to the three "multiple quality level claims" (11, 12 and 40), Apple argues that the '473 patent is obvious in light of Cohen in combination with U.S. Patent No. 5,835,495 ("Ferriere"). Because of the genuine disputes regarding certain limitations allegedly disclosed by Cohen, Ferriere must therefore disclose these same limitations for the dependent multiple quality level claims to be obvious. Apple, however, makes no such claims, relying on Ferriere for only the additional limitations that the dependent claims require.[110] Because the central disputes over compression and maintenance of the upload, download and data rates thus remain even with the addition of Ferriere, summary judgment of obviousness as to dependent claims 11, 12 and 40 is not warranted.

D. No Reasonable Fact-Finder Could Conclude That Apple Acted Willfully

Although Apple believes summary judgment precluding a finding of willfulness is warranted in this case based on the strength of its non-infringement and invalidity defenses, at oral argument it focused the court on its non-infringement positions. Because willfulness may be precluded based on the presentation of one objectively reasonable claim-construction-based defense, this court should find, as a matter of law, Apple did not willfully infringe.

Emblaze responds that viewing the evidence in the light most favorable to it, a reasonable fact finder could find facts sufficient to support a finding of willfulness. The record, viewed in this

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stream" such that "one or more client computers can download the sequence over the network form the server at a download rate generally equal to the data rate."

[110] *See* Docket No. 409 at 9 ("The combination of Ferriere with Cohen renders claims 11, 12 and 40 obvious because Ferriere discloses the additional limitations of dependent claims 11, 12 and 40, and because one skilled in the art would have been motivated to combine the teachings of Ferriere with Cohen to create a system that practices each of these claims.") (citing Docket No. 350 at 23-25).

light, establishes that Apple knew about Emblaze and its technology at least as early as 2002. Emblaze also points out that Apple knew about the '473 patent and Emblaze's claim of infringement as of October 29, 2009 – only a few months after Apple introduced HTTP Live Streaming in its products at a time when network effects from live-streaming were ripe for the taking. Although Apple alleges it believed there were multiple, non-infringing alternatives to HTTP Live Streaming, it has not submitted record evidence to that effect or pursued those alternatives.

Apple has the better of the argument. When "a defense or noninfringement theory asserted by an infringer is purely legal (e.g., claim construction), the objective recklessness of such a theory is a purely legal question to be determined by the judge."[111] The court must "determine, 'based on the record ultimately made in the infringement proceedings,' whether a 'reasonable litigant could realistically expect' those defenses to succeed."[112] Where a disputed claim term is "susceptible to a reasonable construction under which" the accused products do not infringe, there is "not an objectively high likelihood" that the accused infringer's "actions constituted infringement."[113]

Here, every asserted claim contains the "uploading" and "predetermined data size" limitations. Even though the court did not agree that complete summary judgment of non-infringement was warranted, Apple's motions raise substantial questions. They may not be enough to preclude any reasonable jury from finding infringement, but read together, Apple's non-infringement defenses based on its claim construction positions are reasonable enough to

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[111] *Bard*, 682 F.3d at 1007 (Fed. Cir. 2012) (citing *Powell v. Home Depot U.S.A., Inc.*, 663 F.3d 1221, 1236 (Fed. Cir. 2011) ("Under the objective prong, the answer to whether an accused infringer's reliance on a particular issue or defense is reasonable is a question for the court when the resolution of that particular issue or defense is a matter of law.").

[112] *Id.* at 1008 (quoting *iLOR*, 631 F.3d at 1377-78; *Prof'l Real Estate Investors, Inc. v. Columbia Pictures Indus., Inc.*, 508 U.S. 49, 60 (1993)).

[113] *Cohesive Technologies, Inc. v. Waters Corp.*, 543 F.3d 1351, 1374 (Fed. Cir. 2008) (citing *Seagate*, 497 F.3d at 1371).

preclude a finding as a matter of law that Apple has disregarded an "objectively high likelihood that its actions constituted infringement of a valid patent."[114] Summary judgment on willfulness is warranted.

IT IS SO ORDERED.

Dated: April 24, 2014

PAUL S. GREWAL
United States Magistrate Judge

[114] *See, e.g.*, *Multimedia Patent Tr. v. Apple Inc.*, Case No. 10-cv-2618-H-KSC, 2012 WL 6863471, at *17 (S.D. Cal. Nov. 9, 2012) (granting summary judgment of no willful infringement and observing that defendants "have presented objectively reasonable non-infringement arguments in their expert reports" and "although the Court has denied Apple and LG's motion for summary judgment on invalidity, their invalidity argument based on written description and enablement" were "objectively reasonable."); *Advanced Fiber Technologies (AFT) Trust v. J & L Fiber Servs., Inc.*, 674 F.3d 1365, 1377-78 (Fed. Cir. 2012) (affirming district court's summary judgment of no willfulness where the facts showed that the defendant's "assertions of invalidity and noninfringement were, at minimum, objectively reasonable defenses" to the plaintiff's "charge of infringement").